



Attorney Docket: 060258-0268185
Client Reference: 2980691US/A/1HT

12/11/04
D-2404

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of:
PYOTSIA ET AL.

Confirmation Number: 9122

Application No.: 09/550,311

Group Art Unit: 2121

Filed: April 14, 2000

Examiner: C. BARNES

Title: A WIRELESS CONTROL OF A FIELD DEVICE IN AN INDUSTRIAL PROCESS

February 12, 2004

RESPONSE

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FEB 19 2004

Technology Center 2100

Sir:

In response to the Office Action dated October 27, 2003, please reconsider the patentability of the pending claims based on the following arguments. Claims 2, 4 and 6-15 are pending.

Applicants acknowledge the indication that claims 9, 10, 12 and 13 would be allowable providing that these claims are rewritten in independent form including all of the limitations of any base and intervening claims. Applicants delay rewriting those claims at this time to afford the Office with the opportunity to fully reconsider the patentability of the rejected base claims.

Claims 2, 3 and 15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Tapperson et al. (U.S. 5,793,963; hereafter "Tapperson") in view of Venkatraman et al. (U.S. 6,139,177; hereafter "Venkatraman '177"). Claims 6 and 11 were rejected under 35 U.S.C. §103(a) as being unpatentable over Tapperson, Venkatraman '177 and Maddalozzo et al. (U.S. 6,460,060; hereafter "Maddalozzo"). Claims 4, 14 and 15 under 35 U.S.C. §103 based on Tapperson and Venkatraman (U.S. 5,956,487; hereafter "Venkatraman '487"). Claim 8 was rejected under 35 U.S.C. §103(a) as being unpatentable over Tapperson, Venkatraman '487 and Smethers (U.S. 6,560,640). Claim 11 was rejected under 35 U.S.C. §103(a) as being unpatentable over Tapperson, Venkatraman '487 and Maddalozzo.

Applicants traverse all prior art rejections because the cited prior art, analyzed individually or in combination, fails to teach or suggest a control system comprising “at least one mobile terminal arranged to communicate with the control system over a cellular communication system in order to selectively remotely control, configure or monitor the field devices; and an interactive user interface associated with the control system, said user interface utilizing configuration, control and management data maintained in at least one database of the control system and being accessible by the mobile terminal through a dedicated data connection established over the cellular communication system, in order to selectively control, configure or monitor the field devices connected to the control system, said interactive user interface being configured to modify content of the interactive user interface in response to requests or selections made by the mobile terminal and based on the configuration, control and management data retrieved from said at least one database of the control system, and to create control or configuration commands to the control system in response to selections or inputs made by the mobile terminal user in the interactive user interface,” as recited in independent claim 2.

Similarly, the cited prior art fails to teach or suggest a control system comprising “at least one mobile terminal arranged to communicate with the control system over a cellular communication system in order to selectively remotely control, configure or monitor the field devices; and an interactive user interface associated with the control system, said user interface utilizing configuration, control and management data maintained in at least one database of the control system and being accessible by the mobile terminal through a dedicated data connection established over the cellular communication system, in order to selectively control, configure or monitor the field devices connected to the control system, wherein the identity of the field device is a tag number of the field device,” as recited in independent claim 4.

Further, the cited prior art fails to teach or suggest a control system comprising “at least one mobile terminal arranged to communicate with the control system over a cellular communication system in order to selectively remotely control, configure or monitor the field devices; a World Wide Web (WWW) server associated with the control system, said WWW server utilizing configuration, control and management data maintained in at least one database of the control system for providing at least one interactive WWW page which is accessible through a TCP/IP network and a data connection between the mobile terminal and an access server connected to the TCP/IP network; and a browser in the mobile terminal for interacting with the interactive WWW page through said data connection, access server and

the TCP/IP network, in order to selectively control, configure or monitor the field devices connected to the control system, wherein the WWW server comprises a search function which, in response to an identity of a field device sent from the mobile terminal, searches the WWW page of the respective field device,” as recited in independent claim 11.

Moreover, the cited prior art fails to teach or suggest a control system comprising “at least one mobile terminal arranged to communicate with the control system over a cellular communication system in order to selectively remotely control, configure or monitor the field devices; a World Wide Web (WWW) server associated with the control system, said WWW server utilizing configuration, control and management data maintained in at least one database of the control system for providing at least one interactive WWW page which is accessible through a TCP/IP network and a data connection between the mobile terminal and an access server connected to the TCP/IP network; a browser in the mobile terminal for interacting with the at least one interactive WWW page through said data connection, access server and the TCP/IP network, in order to selectively control, configure or monitor the field devices connected to the control system, wherein said WWW server is configured to modify content of the at least one interactive WWW page in response to requests or selections made by the mobile terminal and based on the configuration, control and management data in said at least one database of the control system, and to create control or configuration commands to the control system in response to selections or inputs made by the mobile terminal user in the at least one interactive WWW page,” as recited in independent claim 15.

It should be noted that the deficiencies of Tapperson are actually discussed in the present application (second page, third paragraph). As explained therein, Tapperson merely discloses an arrangement for providing non-redundant secondary access to field devices in a distributed control system. Each field device is provided with a wireless fieldbus port that is accessible by wireless hand-held unit or wireless terminal to obtain the non-redundant secondary access to a field device that is controlled by a control room. In other words, the wireless hand-held unit communicates with a field device directly via either (1) a wireless port provided in the specific field device to be controlled or (2) via an access port connected to a fieldbus such that all field devices connected to the fieldbus can be accessed remotely. In Tapperson, the hand-held control unit is programmed to access each field device so that the maintenance person can access all the actions of devices submitted by different manufacturers (see, for example, column 7, lines 51 to 55 and column 8, lines 61 to 64).

However, contrary to the assertions of the Office Action, Tapperson fails to teach or suggest at least one mobile terminal arranged to communicate with a control system over a

cellular communications system to selectively remotely control, configure or monitor the field devices. To the contrary, Tapperson explicitly teaches wireless fieldbus communication between the hand-held unit and the field devices connected to a fieldbus “without having to communicate with a control room and independent of the distributed control system” (see, for example, column 6, lines 46 to 52). Therefore, Tapperson actually teaches away from the claimed invention.

As admitted to by the Office Action, Tapperson fails to teach or suggest an interactive user interface associated with the control system, the user interface utilizing configuration, control and management data maintained in at least one database of the control system and being accessible by the mobile terminal through a dedicated data connection established over the cellular communication system, to selectively control, configure or monitor the field devices connected to the control system. In fact, Tapperson actually teaches that it is preferable to provide direct wireless access to the field device independently of the control system. Tapperson further teaches that the hand-held control unit is separately programmed for each type of field devices to be controlled.

As admitted by the Office Action, Tapperson also fails to teach that the interactive user interface is configured to modify the content of the interactive user interface in response to requests or selections made by the mobile terminal and based on the configuration, control and management data retrieved from the at least one database of the control system, and to create control or configuration commands to the control system in response to selections or inputs made by the mobile terminal user in the interactive user interface.

However, to remedy this deficiency, the Office Action referred to Venkatraman ‘177.

Nevertheless, Venkatraman ‘177 merely teaches a device to be controlled that is itself provided with an embedded web access functionality, e.g., to provide enhanced user interfunctions. This embedded web access functionality may be a web software program implemented with existing circuitry in a device, such as an existing processor, memory, and input/output circuit that normally perform device-specific functions. A control device is provided with a general-purpose web browser; therefore, user-friendly interfaces can be provided for a wide variety of devices without the necessity to develop expensive hardware and software applications for different devices.

As a result, Venkatraman ‘177 actually teaches away from the invention wherein the interactive user interface is associated with the control system and arranged to utilize the configuration, control and management data of the control system. Therefore, the content of the interactive user interface, in other words, the information sent to the mobile terminal, as

well as the field device-specific control data imported from the user interface to the control system can be built up using the configuration, control and management data available in the control system. This enables that the content of the user interface is always up-to-date with the control system and the process. In practice, the content of the user interface may be created utilizing the same database(s) as the control system.

Venkatraman '177 further fails to teach that the interactive user interface is configured to modify the content of the interactive user interface in response to the requests and selections made by the mobile terminal and based on the configuration, control and management data obtained from the control system, and to create control and configuration commands to the control system in response to the selections or inputs made by the mobile terminal user in the interactive user interface.

To the contrary, as discussed above, Venkatraman teaches to provide each device with a web server embodying a device-specific user interface that can be accessed by a web browser. The system is thereby provided with a plurality of user interfaces, one in each device.

Such an approach differs from the present invention that provides a centralized user interface on a system level, the user interface providing access to a plurality of field devices and adapting to the different features of these field devices. Therefore, all the claims are patentable over Tapperson in view of Venkatraman '177.

Maddalozzo fails to remedy the deficiencies of Tapperson and Venkatraman '177 because Maddalozzo merely teaches a web browser that automatically generates a search list from URLs in the browser's bookmark and/or history files, automatically accesses and searches each URL on the Internet or cache on the browser's computer and displays web pages containing the target keywords in a format selected by the user on the data processing system display.

Venkatraman '487 also fails to remedy the deficiencies of the other cited references because Venkatraman '487 merely teaches embedding web access functionality in a device to provide access to user interface functions for the device through a device web page.

Similarly, Smethers fails to remedy the deficiencies of the other cited references because Smethers merely teaches generally on improved techniques that enable wireless devices to implement bookmarks with improved transmission efficiency, reduced user navigation and/or reduced amounts of memory resources are disclosed.

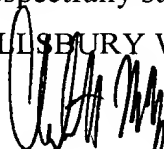
Therefore, the cited reference teachings, when analyzed individually or in combination, fail to teach or suggest all the features recited in the rejected claims. Therefore, all pending claims are allowable.

All rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited. If any points remain in issue which may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

PILLSBURY WINTHROP LLP



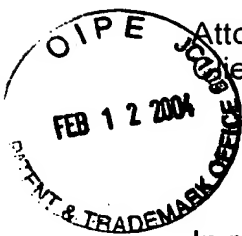
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Attorney's Docket 060258-0268185
Client Reference: 2980691US/A/1HT

2121/\$
#11

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of:
JOUNI KALEVI PYOTSIA ET AL.

Confirmation Number: 9122

Application No.: 09/550,311

Group Art Unit: 2121

Filed: April 14, 2000

Examiner: C. Barnes

For: A WIRELESS CONTROL OF A FIELD DEVICE IN AN INDUSTRIAL PROCESS

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AMENDMENT/RESPONSE TRANSMITTAL Technology Center 2100

Transmitted herewith is an amendment/response for this application.

EXTENSION OF TIME

The proceedings herein are for a patent application and the provisions of 37 C.F.R. 1.136 apply. Applicant petitions for a 1 month extension of time under 37 C.F.R. 1.136.

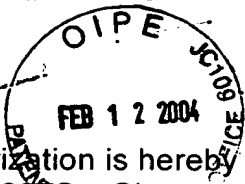
FEES

The fee for claims and extension of time (37 C.F.R. 1.16 and 1.17) has been calculated as shown below:

CLAIMS		HIGHEST NO.		PRESENT		RATE	ADDIT.	FEE
REMAINING	AFTER	PREVIOUSLY	PAID FOR	EXTRA				
AMENDMENT								
TOTAL	13	-	20	=	0	X \$ 18.00	=	\$ 0.00
INDEP.	4	-	4	=	0	X \$ 86.00	=	\$ 0.00
FIRST PRESENTATION OF MULTIPLE DEP. CLAIM						+ \$ 290.00	=	\$ 0.00
TOTAL ADDITIONAL CLAIM FEE								\$ 0.00
EXTENSION OF TIME FEE								\$ 110.00
GRAND TOTAL								\$ 110.00

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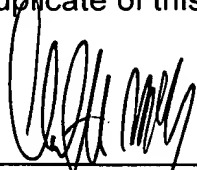
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FEE PAYMENT

Authorization is hereby made to charge the amount of \$110.00 to Deposit Account No. 033975. Charge any additional fees required by this paper or credit any overpayment in the manner authorized above. A duplicate of this paper is attached.

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